

**INFORMATION  
DISCLOSURE  
STATEMENT**

Atty. Docket No.: 220.0004 0101

Serial No.: 09/483,337

Applicant(s): Eric T. KOOL

Filing Date: 14 January 2000

Group: 1623

Art Unit

**U.S. PATENT DOCUMENTS**

Examiner Initial		Document Number	Date	Name	Class	SubClass	Filing Date If Appropriate
Me	AA	5,476,930	12/19/95	Letsinger et al.	536	025.300	
Me	AB	5,571,903	11/05/96	Gryaznov	536	023.100	
Me	AC	5,681,943	10/28/97	Letsinger et al.	536	025.330	
Me	AD	5,707,804	01/13/98	Mathies et al.	435	006.000	
Me	AE	5,714,320	02/03/98	Kool	435	006.000	
Me	AF	5,780,613	07/14/98	Letsinger et al.	536	025.330	

**FOREIGN PATENT DOCUMENTS**

		Document Number	Date	Country	Class	SubClass	Translation	
							Yes	No
Me	AL	WO 94/24143	10/27/94	PCT	---	---		
Me	AM	WO 96/35699	11/14/96	PCT	---	---		
Me	AN	WO 97/22719	06/26/97	PCT	---	---		
Me	AO	WO 97/05284	02/13/97	PCT	---	---		
Me	AP	WO 98/38296	09/03/98	PCT	---	---		

**OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)**

Me	AR	!	Beaucage et al., "Tetrahedron Report Number 309: Advances in the Synthesis of Oligonucleotides by the Phosphoramidite Approach," <u>Tetrahedron</u> , 48(12):2223-2311 (1992).
Me	AS		Cook, "Nucleoside S-Alkyl Phosphorothioates. IV. Synthesis of Nucleoside Phosphorothioate Monoesters," <u>J. Am. Chem. Soc.</u> , 92(1):190-195 (1970) 1/14/70
Me	AT	!	Gamper et al., "Solution Hybridization of Crosslinkable DNA Oligonucleotides to Bacteriophage M13 DNA," <u>J. Mol. Biol.</u> , 197:349-362 (1987).
Me	AU		Gryaznov et al., "Chemical Ligation of Oligonucleotides in the Presence and Absence of a Template," <u>J. Am. Chem. Soc.</u> , 115(9):3808-3809 (1993). (05/05/93)
Me	AV		Gryaznov et al., "Template controlled coupling and recombination of oligonucleotide blocks containing thiophosphoryl groups," <u>Nuc. Acids Res.</u> , 21(6):1403-1408 (1993). (March 25, 1993).
Me	AW		Gryaznov et al., "Enhancement of selectivity in recognition of nucleic acids via chemical autoligation," <u>Nuc. Acids Res.</u> , 22(12):2366-2369 (1994). (06/25/94).

! Month of publication data is unavailable for this reference.

EXAMINER

L. E. Crane


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08/14/01

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<i>He</i>	AX	!	Herrlein et al., "A Covalent Lock for Self-Assembled Oligonucleotide Conjugates," <u>J. Am. Chem. Soc.</u> , <u>117</u> (40):10151-10152 (1995).
<i>He</i>	AY		Herrlein et al., "Stability and Conformational Switching in a Mini-Cyclic Oligonucleotide Conjugate," <u>Angewandte Chemie, International Edition</u> , <u>36</u> (6):599-601 (1997). (April 4, 1997).
<i>He</i>	AZ	!	Higgins et al., "[4] DNA-Joining Enzymes: A Review," <u>Methods in Enzymology</u> , Volume 68, Recombinant DNA, Wu, ed., Academic Press, New York, Title page, publication page and pgs. 50-71 (1979).
<i>He</i>	BR	!	Horn et al., "A Chemical 5'-Phosphorylation of Oligodeoxyribonucleotides That Can be Monitored by Trityl Cation Release," <u>Tetrahedron Lett.</u> , <u>27</u> (39):4705-4708 (1986).
<i>He</i>	BS		Hung et al., "Optimization of Spectroscopic and Electrophoretic Properties of Energy Transfer Primers," <u>Anal. Biochem.</u> , <u>252</u> (1):78-88 (1997). (10/01/97).
<i>He</i>	BT	!	Knight et al., "Phosphorylated Thiosugars: Synthesis, Properties, and Reactivity in Enzymatic Reactions," <u>Biochemistry</u> , <u>30</u> (20):4970-4977 (1991).
<i>He</i>	BU		Landegren et al., "A Ligase-Mediated Gene Detection Technique," <u>Science</u> , <u>241</u> :1077-1080 (1988). (08/26/88)
<i>He</i>	BV	!	Mag et al., "Synthesis and selective cleavage of an oligodeoxynucleotide containing a bridged internucleotide 5'-phosphorothioate linkage," <u>Nuc. Acids Res.</u> , <u>19</u> (7):1437-1441 (1991).
<i>He</i>	BW	!	Mori et al., "Phosphoroselenoate oligodeoxynucleotides: synthesis, physico-chemical characterization, anti-sense inhibitory properties and anti-HIV activity," <u>Nuc. Acids Res.</u> , <u>17</u> (20):8207-8219 (1989).
<i>He</i>	BX		Nilsson et al., "Padlock Probes: Circularizing Oligonucleotides for Localized DNA Detection," <u>Science</u> , <u>265</u> :2085-2088 (1994). (September 30, 1994).
<i>He</i>	BY	!	Paris et al., "Probing DNA sequences in solution with a monomer-excimer fluorescence color change," <u>Nuc. Acids Res.</u> , <u>26</u> (16):3789-3793 (1998).
<i>He</i>	BZ	!	Pritchard et al., "Effects of base mismatches on joining of short oligodeoxynucleotides by DNA ligases," <u>Nuc. Acids Res.</u> , <u>25</u> (17):3403-3407 (1997).
<i>He</i>	CR		Reddy et al., "A point mutation is responsible for the acquisition of transforming properties by the T24 human bladder carcinoma oncogene" <u>Nature</u> , <u>300</u> :149-152 (1982). (11/11/82).

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<i>Me</i>	CS	!	Rybakov et al., "Some substrate properties of analogues of oligothymidylates with p-s-C <sup>5</sup> bonds," <u>Nuc. Acids Res.</u> , 9(1):189-201 (1981).
<i>Me</i>	CT	!	Samiotaki et al., "Dual-Color Detection of DNA Sequence Variants by Ligase-Mediated Analysis," <u>Genomics</u> , 20(2):238-242 (1994). (03/15/94).
<i>Me</i>	CU	!	Seeman, "DNA Nanotechnology: Novel DNA Constructions," <u>Annu. Rev. Biophys. Biomol. Struct.</u> , 27:225-248 (1998).
<i>Me</i>	CV	!	Somers et al., "Exonuclease enhances hybridization efficiency: Improved direct cycle sequencing and point mutation detection," <u>Biochim. Biophys. Acta</u> , 1379:42-52 (1998).
<i>Me</i>	CW	!	Stec et al., "Automated Solid-Phase Synthesis, Separation, and Stereochemistry of Phosphorothioate Analogues of Oligodeoxyribonucleotides," <u>J. Am. Chem. Soc.</u> , 106:6077-6079 (1984).
<i>Me</i>	CX		Usón et al., "Advances in direct methods for protein crystallography," <u>Curr. Opin. Struct. Biol.</u> , 9(5):643-648 (1999). (October, 1999).
<i>Me</i>	CY	!	van Tol et al., "Two autolytic processing reactions of a satellite RNA proceed with inversion of configuration," <u>Nuc. Acids Res.</u> , 18(8):1971-1975 (1990).
<i>Me</i>	CZ	!	Verheyden et al., "Halo Sugar Nucleosides. I. Iodination of the Primary Hydroxyl Groups of Nucleosides with Methyltriphenoxyposphonium Iodide," <u>J. Org. Chem.</u> , 35(7):2319-2326 (1970).
<i>Me</i>	DR	!	Vu et al., "Internucleotide Phosphite Sulfurization with Tetraethylthiuram Disulfide. Phosphorothioate Oligonucleotide Synthesis Via Phosphoramidite Chemistry," <u>Tetrahedron Lett.</u> , 32(26):3005-3008 (1991).
<i>Me</i>	DS	!	Wang et al., "Relative stabilities of triple helices composed of combinations of DNA, RNA and 2'-O-methyl-RNA backbones: chimeric circular oligonucleotides as probes," <u>Nuc. Acids Res.</u> , 23(7):1157-1164 (1995).
<i>Me</i>	DT		Xu et al., "A Novel 5'-Iodonucleoside Allows Efficient Nonenzymatic Ligation of Single-stranded and Duplex DNAs," <u>Tetrahedron Lett.</u> , 38(32):5595-5598 (1997). (08/11/97)
<i>Me</i>	DU		Xu et al., "Chemical and enzymatic properties of bridging 5'-S-phosphorothioester linkages in DNA," <u>Nuc. Acids Res.</u> , 26(13):3159-3164 (1998). (07/01/98).
<i>Me</i>	DV		Xu et al., "High sequence fidelity in a non-enzymatic DNA autoligation reaction," <u>Nuc. Acids Res.</u> , 27(3):875-881 (Feb. 1, 1999). (February 1, 1999).

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NONE					

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<i>Re</i>	DW !	Xu, <u>Molecular Recognition and Detection of Nucleic Acid Sequences I. Sequence Specific Recognition of DNA by Circular Oligonucleotides II. A Novel DNA Autoligation Method Allowing Efficient Detection of Point Mutations</u> , Doctoral Thesis, Department of Chemistry, University of Rochester, Rochester, New York. (1999).
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